

What is claimed is:

1. An overvoltage protective device in parallel connection with a direct-current (DC) motor, comprising:

a voltage-dividing circuit having one end thereof electrically connected to an input voltage of the DC motor, and the other end thereof connected to ground; and

a control unit being in parallel connection with one part of the voltage-dividing circuit, and for accessing a voltage level of the part of the voltage-dividing circuit to further drive the DC motor.

2. The overvoltage protective device as described in claim 1, wherein when a voltage level of the part is larger than a reference voltage, the control unit stops driving the DC motor.

3. The overvoltage protective device as described in claim 2, wherein the reference voltage is a product of the rated voltage of the DC motor, a reciprocal of a total resistance of the voltage-dividing circuit, and a resistance of the part of the voltage-dividing circuit.

4. The overvoltage protective device as described in claim 1, wherein the voltage-dividing circuit is composed of a first resistor and a second resistor, and the part of the voltage-dividing circuit is the second resistor.

5. The overvoltage protective device as described in claim 1, wherein the control unit is a micro control unit (MCU) driver.

6. The overvoltage protective device as described in claim 1, wherein the DC motor is a DC fan motor.

7. An overvoltage protective device of DC motor having a plurality of power switches, comprising:

a first resistor with one end thereof electrically connected to an input end voltage of the DC motor;

a second resistor with one end thereof electrically connected to the other end of the first resistor, and the other end thereof connected to ground; and

a micro control unit (MCU) driver having a plurality of output terminals driving the power switches, and electrically connected between the first resistor and the second resistor;

wherein, when an terminal voltage of the second resistor is larger than a reference voltage, the output terminals stop driving the power switches.

8. The overvoltage protective device of DC motor as described in claim 7, wherein the reference voltage is a product of the input voltage of the DC motor, a reciprocal of a sum of the resistances of the first resistor and the second resistor, and a resistance of the second resistor.

9. An overvoltage protective device of DC motor comprising:

a first voltage-dividing circuit having one end thereof electrically connected to an input end voltage of a DC motor, and the other end thereof connected to ground;

a second voltage-dividing circuit having one end thereof electrically connected to a reference voltage end, and the other end connected to ground;

a control unit for controlling start of the DC motor; and

an operation amplifier having a non-inverted input end electrically connected to the first voltage-dividing circuit, an inverted input end thereof electrically connected to the second voltage-dividing circuit, and an output end thereof electrically connected to the control unit;

wherein, when a voltage at the non-inverted input end of the operation amplifier is larger than a voltage at the inverted input end, the operation amplifier outputs an overvoltage interrupt signal to the control unit, and the control unit stops driving the DC motor.

10. The overvoltage protective device of DC motor as described in claim 9, wherein the first voltage-dividing circuit comprises a first resistor and a second resistor, the second voltage-dividing circuit comprises a third resistor and a fourth resistor, the non-inverted input end of the operation amplifier is electrically connected between the first resistor and the second resistor, and an inverted output end of the operation amplifier is electrically connected between the third resistor and the fourth resistor.

11. The overvoltage protective device of DC motor as described in claim 9, wherein the operation amplifier is a comparator.

12. The overvoltage protective device of DC motor as described in claim 9, wherein the control unit is a drive IC.

13. The overvoltage protective device of DC motor as described in claim 9, wherein the DC motor is a DC fan motor.

14. An overvoltage protective device of DC motor having a plurality of power switches, comprising:

- a first resistor with one end thereof electrically connected to a voltage input end of the DC motor;

- a second resistor with one end thereof connected to the other end of the first resistor, and other end thereof connected to ground;

- a third resistor with one end thereof connected to a reference voltage end;

- a fourth resistor with one end thereof electrically connected to the other end of the third resistor, and the other end thereof grounded;

- an drive IC having a plurality of output terminals for respectively driving the power switches; and

- a comparator having a non-inverted input end thereof connected between the first resistor and the second resistor, an inverted input end thereof electrically between the third resistor and the fourth resistor, and an output end thereof electrically connected to the drive IC;

wherein, when a voltage at the non-inverted input end is larger than a voltage at the inverted input end, the comparator outputs an overvoltage interrupt signal to the drive IC, and the output terminals then stops driving the power switches.

15. The overvoltage protective device of DC motor as described in claim 14, wherein the reference voltage is a rated voltage of the DC motor.